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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,661	10/17/2003	Martin Miller	455610-2610.1	1207
20999 7590 01/03/2007 FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			EXAMINER WARE, CICELY Q	
			ART UNIT	PAPER NUMBER
			2611	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/03/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/688,661

Applicant(s)

MILLER, MARTIN

Examiner

Cicely Ware

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because: figures contain handwritten elements. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Objections

2. Claim 5 is objected to because of the following informalities:

a. With regard to claim 5, applicant recites "The method of claim 3".

Examiner suggests using "The method of claim 4" for antecedent bases purposes and clarification purposes. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claim 8 recites the limitation "the eye crossing level" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

5. Claim 8 recites the limitation "the crossing distribution's peak-to-peak variation" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

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6. Claims 9 and 10 recite the limitation "said obtained data jitter" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 18 recites the limitation "the eye crossing level" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 18 recites the limitation "the crossing distribution's peak-to-peak variation" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

9. Claims 19 and 20 recite the limitation "said obtained data jitter" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

10. Claims 4 and 5, 14 and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

a. With regard to claims 4 and 5, 14 and 15, claims 4 and 5, 14 and 15 recite, "P bit values". Examiner is unclear as to what P is. Therefore claims 4 and 5 have not been further treated on the merits.

Claim Rejections - 35 USC § 101

11. Claims 1-20 are rejected under 35 U.S.C. 101 because: the claimed invention is directed to non-statutory subject matter:

Examiner asserts that in claims 1 and 11, applicant recites "a method for displaying substantially noise-free waveforms". Therefore the claims are a practical application that does not produce a tangible or concrete result.

Examiner is unable to find this step in the claims. Applicant has recited a displaying step, however there is no mention of a noise-free waveform in the body of the claim. Examiner suggests applicant recite in the body of the claim displaying substantially noise-free waveforms.

b. Practical Application That Produces a Useful, Concrete, and Tangible Result

For eligibility analysis, physical transformation "is not an invariable requirement, but merely one example of how a mathematical algorithm [or law of nature] may bring about a useful application." AT&T, 172 F.3d at 1358-59, 50 USPQ2d at 1452. If the examiner determines that the claim does not entail the transformation of an article, then the examiner shall review the claim to determine if the claim provides a practical application that produces a useful, tangible and concrete result. In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is "useful, tangible and concrete." The claim must be examined to see if it includes anything more than a Sec. 101 judicial exception. If the claim is directed to a practical application of the Sec. 101 judicial exception producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. Sec. 101. If the examiner does not find such a practical application, the examiner has determined that the claim is nonstatutory.

In determining whether a claim provides a practical application that produces a useful, tangible, and concrete result, the examiner should consider and weigh the following factors:

(2) "TANGIBLE RESULT"

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a Sec. 101 judicial exception, in that the process claim must set forth a practical application of that Sec. 101 judicial exception to produce a real-world result. *Benson*, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had "no substantial practical application."). "[A]n application of a law of nature or mathematical formula to a . . . process may well be deserving of patent protection." *Diehr*, 450 U.S. at 187, 209 USPQ at 8 (emphasis added); see also *Corning*, 56 U.S. (15 How.) at 268, 14 L.Ed. 683 ("It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted . . ."). In other words, the opposite meaning of "tangible" is "abstract."

(3) "CONCRETE RESULT"

Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. In other words, the process must have a result that can be substantially repeatable or the process must substantially produce the same result again. *In re Swartz*, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000) (where asserted result produced by the claimed invention is "irreproducible" claim should be rejected under section 101). The opposite of "concrete" is unrepeatable or unpredictable. Resolving this question is dependent on the level of skill in the art. For example, if the claimed invention is for a process which requires a particular skill, to determine whether that process is substantially repeatable will necessarily require a determination of the level of skill of the ordinary artisan in that field. An appropriate rejection under 35 U.S.C. Sec. 101 should be accompanied by a lack of enablement rejection under 35 U.S.C. Sec. 112, paragraph 1, where the invention cannot operate as intended without undue experimentation. See *infra*.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-3, 6, 11-13, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suwada et al. (US Patent Application 2002/0032555) in view of Richardson et al. (US Patent 5,966,684).

(1) With regard to claim 1, Suwada et al. discloses dividing an acquired waveform into a plurality of waveform slices (Pg. 1, [0006], lines 4-7, [0007], lines 6-8); categorizing each of said plurality of waveform slices according to at least a sequence of N bit values prior to a bit value being observed (Pg. 1, [0006], lines 4-7, [0007], lines 6-8, Pg. 4, [0072], lines 1-2, [0073], lines 1-12, Pg. 5, [0097], lines 1-9, [0099], lines 1-4); displayed each of said averaged patterns in an overlaid manner (inherent to an eye diagram, Pg. 4 [0088], lines 1-7, Pg. 5, [0099], lines 1-4, [0107], lines 1-6, [0108], lines 1-5, [0109], lines 1-7).

However Suwada et al. does not disclose averaging said waveform slices in each category resulting in an average pattern for each category.

However Richardson et al. discloses averaging said waveform slices in each category resulting in an average pattern for each category (col. 9, lines 14-30, 34-40).

Therefore it would have been obvious to one of ordinary skill in the art to modify Suwada et al. in view of Richardson et al. to incorporate averaging said waveform slices

in each category resulting in an average pattern for each category in order to substantially eliminate periodic electrical interference without significantly altering the signal of interest (col. 3, lines 46-49).

(2) With regard to claim 2, claim 2 inherits all the limitations of claim 1. Suwada et al. discloses wherein N is in the range of 3-10 (Pg. 3, [0071], lines 1-7).

Examiner asserts that Suwada et al. does not explicitly disclose wherein N is in the range of 3-10. However Suwada et al. discloses wherein the bit pattern format is easily designated by a user.

(3) With regard to claim 3, claim 3 inherits all the limitations of claim 2. Suwada et al. discloses where in $N = 6$ (Pg. 3, [0071], lines 1-7).

Examiner asserts that Suwada et al. does not explicitly disclose wherein $N = 6$. However Suwada et al. discloses wherein the bit pattern format is easily designated by a user.

(4) With regard to claim 6, claim 6 inherits all the limitations of claim 1. Suwada et al. further discloses in (Fig. 25) wherein said acquired waveform is stored in memory (203, 204) upon acquisition (Pg. 8, [0152], lines 12-14, [0153], lines 1-10).

(5) With regard to claim 11, see rejection of claim 1.

(6) With regard to claim 12, claim 12 inherits all the limitations of claim 11. See rejection of claim 2.

(7) With regard to claim 13, claim 13 inherits all the limitations of claim 12. See rejection of claim 3.

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(8) With regard to claim 16, claim 16 inherits all the limitations of claim 11. See rejection of claim 6.

Conclusion


14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 571-272-3047. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on 571-272-3021. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw
January 3, 2007


MOHAMMED GHAYOUR
SUPERVISORY PATENT EXAMINER